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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,406	08/19/2003	Wen Fei Yu	10541-1850	3454

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EXAMINER

LEO, LEONARD R

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/643,406

Applicant(s)

YU, WEN FEI

Examiner

Leonard R. Leo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 20, 2006 has been entered.

Claims 1-11 are pending.

Drawings

Figures 2A, 2B and 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification as originally filed lacks an adequate written description of the invention. There is no basis for the recitation “an angle between about 15 and 75 degrees” in set forth in claim 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 7-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Modine (1,730,470)(Figure 9), Modine (1,893,521) or Hughes et al (Figures 1-2). Regarding claim 1, the recitation of a “header” does not structurally define over the fins of the respective prior art references. As permissibly gleaned from Figures 7 and 9 of Modine (‘470), the unlabelled step portion extends laterally at an angle of about 30 degrees with the plane of the base portion 30. As permissibly gleaned from Figures 2-4 of Modine (‘521), the unlabelled step portion extends laterally at an angle of about 45 degrees with the plane of the base portion 25, 26. As permissibly gleaned from Figures 1-2 of Hughes et al, the step portion 11 extends laterally at an

angle of about 45 degrees with the plane of the base portion 10. Regarding claims 9-11, the juncture of respective prior art references inherently meets the claim limitations.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modine ('470), Modine ('521) or Hughes et al.

Modine ('470), Modine ('521) or Hughes et al discloses all the claimed limitations except specific dimensions.

To employ a specific dimension is considered to be an obvious design expedient, producing no new and/or unexpected results and solving no stated problem. It would have been obvious to one of ordinary skill in the art to employ any structural dimension to achieve a desired strength, pressure drop and/or heat exchange.

Response to Arguments

The rejections in view of Yoshida et al (i.e. mistakenly referenced as Taisuke et al, JP 2003-114094), Kobayashi et al, Kato et al and Gowan et al are withdrawn in view of the claim amendment.

Applicant's arguments have been fully considered but they are not persuasive.

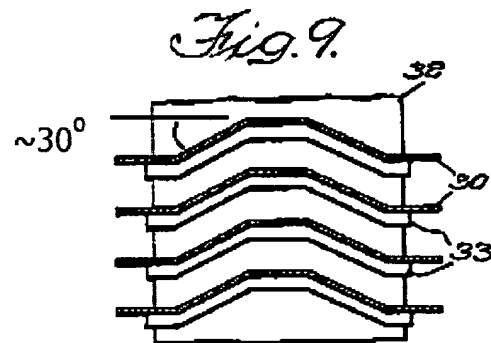
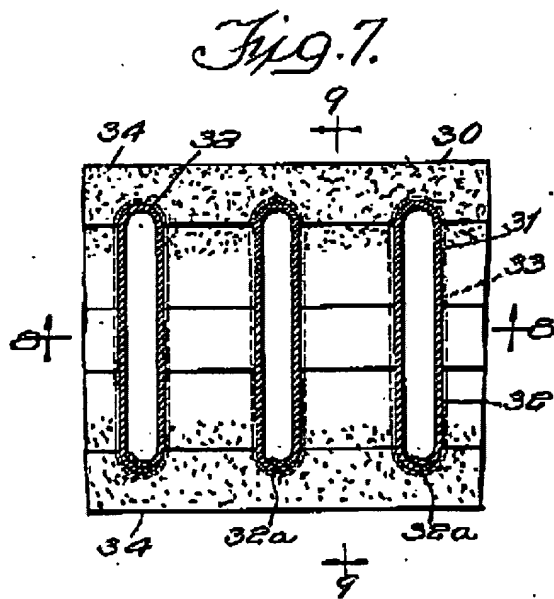
Regarding applicant's remarks with respect to Modine ('470), Modine ('521) or Hughes et al, the Examiner agrees the references primarily disclose fins engaged with tubes. As stated

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throughout the entire prosecution, the recitation of a “header” does not structurally define over the fins of the respective prior art references. Applicant has not addressed this issue.

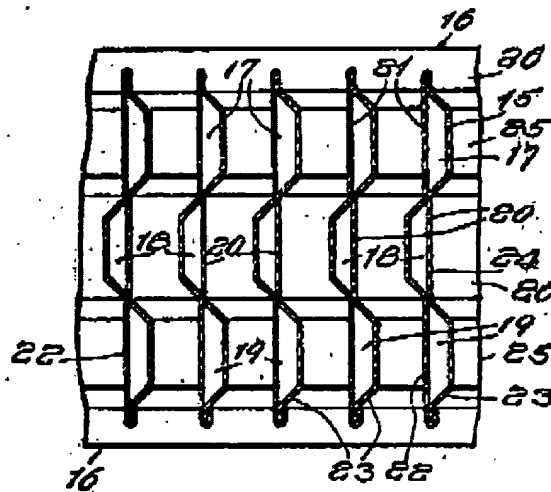
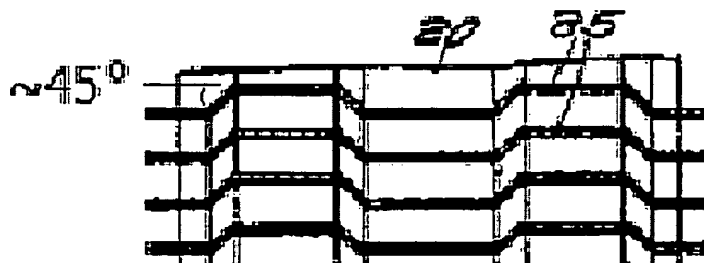
The amended claim limitations are present in each and every prior art reference as follows.

Figure 7 of Modine (1,730,470) discloses a structure having a substantially planar base portion extending laterally (top to bottom) defining a width and longitudinally (left to right) defining a length. Along site line 9-9 of Figure 7, Figure 9 discloses a pair of step portions extending longitudinally along a respective side of the base portion and extending laterally at an angle of about 30 degrees as a straight segment. The recitation of a “header” does not structurally define over the fins of Modine (1,730,470).



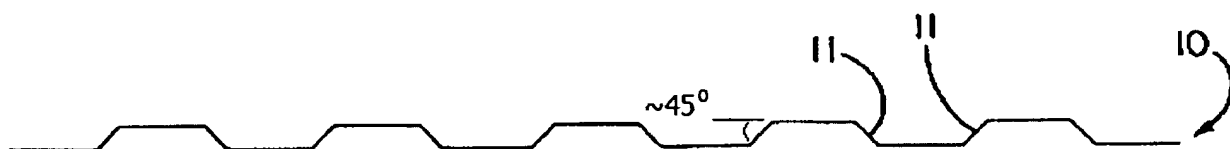
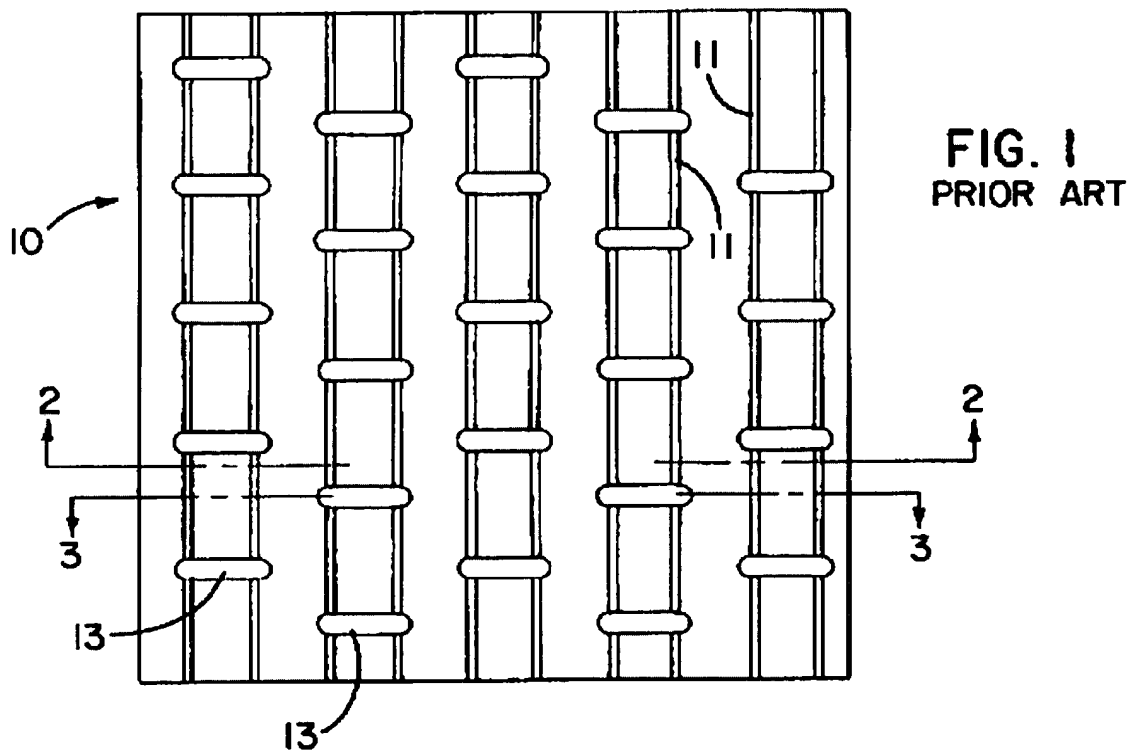
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Figure 3 of Modine (1,893,521) discloses a structure having a substantially planar base portion 26 (center) extending laterally (top to bottom) defining a width and longitudinally (left to right) defining a length. In a side view of Figure 3, Figure 2 discloses a pair of step portions (between planar portions 25 and 26) extending longitudinally along a respective side of the base portion 26 (center) and extending laterally at an angle of about 45 degrees as a straight segment. The recitation of a "header" does not structurally define over the fins of Modine (1,893,521).

Fig. 3.*Fig. 2.*

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Figure 1 of Hughes et al discloses a structure having a substantially planar base portion extending laterally (left to right) defining a width and longitudinally (top to bottom) defining a length. Along site line 2-2 of Figure 1, Figure 2 discloses a pair of step portions 11 extending longitudinally along a respective side of the base portion and extending laterally at an angle of about 45 degrees as a straight segment. The recitation of a "header" does not structurally define over the fins of Hughes et al.



Again, the obviousness rejection is deemed correct for lack of any argument by applicant. Applicant did not traverse the obviousness of employing a specific dimension to achieve a desired strength, pressure drop and/or heat exchange.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard R. Leo whose telephone number is (571) 272-4916. The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on (571) 272-4930. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LEONARD R. LEO
PRIMARY EXAMINER
ART UNIT 3753

June 14, 2006